

Faculty of Engineering and Computer Science Expectations of Originality

This form sets out the requirements for originality for work submitted by students in the Faculty of Engineering and Computer Science. Submissions such as assignments, lab reports, project reports, computer programs and take-home exams must conform to the requirements stated on this form and to the Academic Code of Conduct. The course outline may stipulate additional requirements for the course.

1. Your submissions must be your own original work. Group submissions must be the original work of the students in the group.
2. Direct quotations must not exceed 5% of the content of a report, must be enclosed in quotation marks, and must be attributed to the source by a numerical reference citation¹. Note that engineering reports rarely contain direct quotations.
3. Material paraphrased or taken from a source must be attributed to the source by a numerical reference citation.
4. Text that is inserted from a web site must be enclosed in quotation marks and attributed to the web site by numerical reference citation.
5. Drawings, diagrams, photos, maps or other visual material taken from a source must be attributed to that source by a numerical reference citation.
6. No part of any assignment, lab report or project report submitted for this course can be submitted for any other course.
7. In preparing your submissions, the work of other past or present students cannot be consulted, used, copied, paraphrased or relied upon in any manner whatsoever.
8. Your submissions must consist entirely of your own or your group's ideas, observations, calculations, information and conclusions, except for statements attributed to sources by numerical citation.
9. Your submissions cannot be edited or revised by any other student.
10. For lab reports, the data must be obtained from your own or your lab group's experimental work.
11. For software, the code must be composed by you or by the group submitting the work, except for code that is attributed to its sources by numerical reference.

You must write one of the following statements on each piece of work that you submit:

For individual work: **"I certify that this submission is my original work and meets the Faculty's Expectations of Originality"**, with your signature, I.D. #, and the date.

For group work: **"We certify that this submission is the original work of members of the group and meets the Faculty's Expectations of Originality"**, with the signatures and I.D. #s of all the team members and the date.

A signed copy of this form must be submitted to the instructor at the beginning of the semester in each course.

I certify that I have read the requirements set out on this form, and that I am aware of these requirements. I certify that all the work I will submit for this course will comply with these requirements and with additional requirements stated in the course outline.

Course Number: COMP 353

Name: Team ikc353_1

Signature: Nathan AV AMIRHOSSEIN HADINEZHAD *AV*

Hasan Ahmed *Hasan Ahmed*

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Instructor: _____

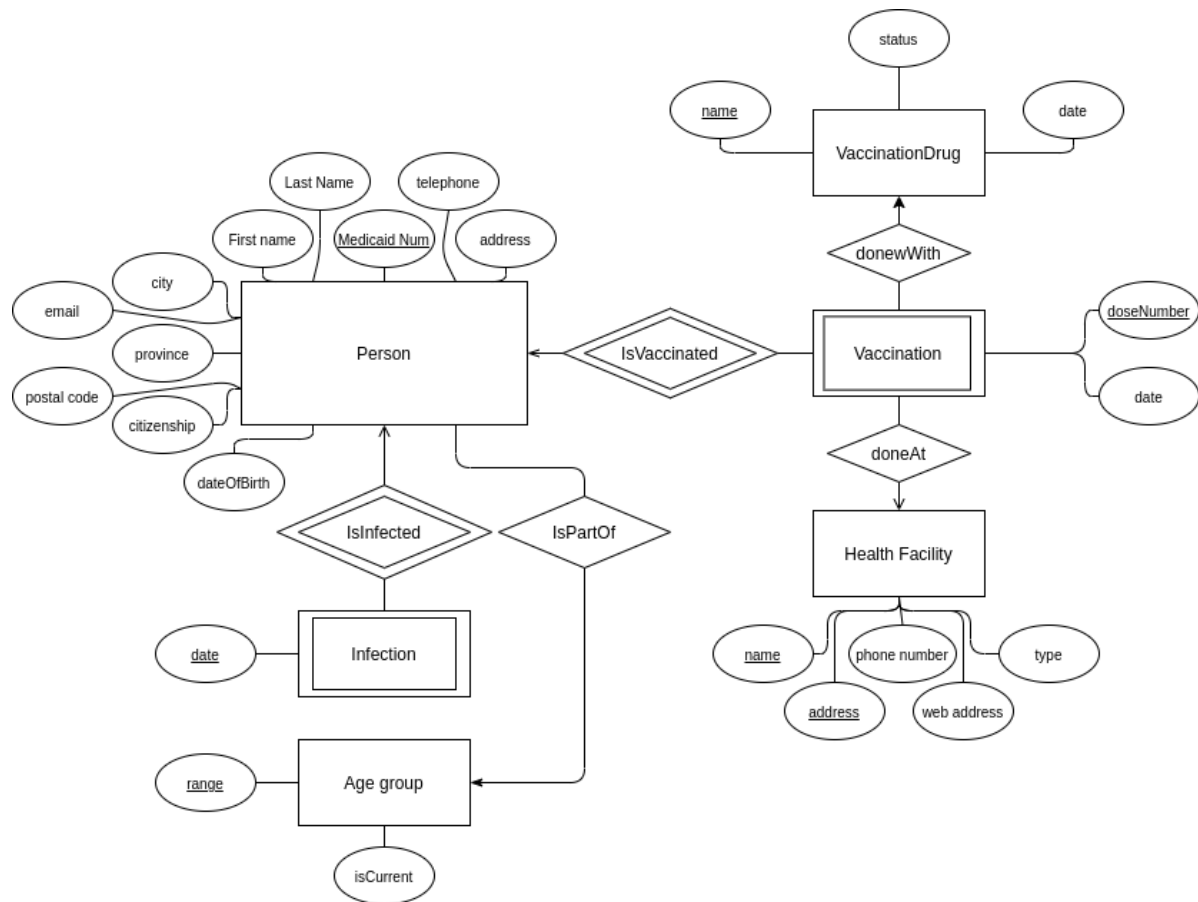
I.D. # 40086963

Date: Jul 13 2021

¹ Rules for reference citation can be found in "Form and Style" by Patrich MacDonagh and Jack Bordan, fourth edition, May, 2000, available at <http://www.encs.concordia.ca/scs/Forms/Form&Style.pdf>.

Warmup project

Part 1 - DESIGN



Part 2 - Create

Person relation

```
CREATE TABLE Person (  
  medicaidNum VARCHAR(10),  
  telephone VARCHAR(13),  
  firstName VARCHAR(100),  
  lastName VARCHAR(100),  
  address VARCHAR(255),  
  city VARCHAR(255),  
  province VARCHAR(3),  
  postalCode VARCHAR(6),  
  citizenship BOOLEAN,  
  email VARCHAR(255),  
  dateOfBirth DATE,  
  PRIMARY KEY(medicaidNum)  
);
```

Infection relation

```
CREATE TABLE Infection (  
  dateInfection DATE,  
  medicaidNum VARCHAR(10),  
  PRIMARY KEY(dateInfection, medicaidNum)  
);
```

AgeGroup relation

```
CREATE TABLE AgeGroup (  
  ageRange VARCHAR(20),  
  isCurrent BOOLEAN,  
  PRIMARY KEY (ageRange)  
);
```

Vaccination relation

```
CREATE TABLE Vaccination (  
  medicaidNumber VARCHAR(10),  
  doseNumber INT,  
  date DATE,  
  PRIMARY KEY (medicaidNumber, doseNumber)  
);
```

PersonAgeGroup relation

```
CREATE TABLE PersonAgeGroup (  
  ageRange VARCHAR(20),  
  medicaidNum VARCHAR(10),  
  PRIMARY KEY(ageRange, medicaidNum)  
);
```

VaccinationDrug relation

```
CREATE TABLE VaccinationDrug (  
  name VARCHAR(100),  
  status VARCHAR(50),  
  dateLastStatus DATE,  
  PRIMARY KEY (name)  
);
```

VaccinationDoneWith relation

```
CREATE TABLE VaccinationDoneWith (  
  medicaidNum VARCHAR(10),  
  doseNumber INT,  
  name VARCHAR(100),  
  PRIMARY KEY (medicaidNum, doseNumber, name)  
);
```

VaccinationDoneAt relation

```
CREATE TABLE VaccinationDoneAt (  
    medicaidNum VARCHAR(10),  
    doseNumber INT,  
    name VARCHAR(100),  
    address VARCHAR(100),  
    PRIMARY KEY(medicaidNum, doseNumber, name, address)  
);
```

HealthFacility relation

```
CREATE TABLE HealthFacility (  
    name VARCHAR(100),  
    address VARCHAR(100),  
    phoneNumber VARCHAR(13),  
    webAddress VARCHAR(100),  
    type VARCHAR(8),  
    PRIMARY KEY (name, address)  
);
```

Part 3 - Queries

1. Get details of all the people who got vaccinated at least one dose and are of group ages 4 to 10 (first-name, last-name, date of birth, email, phone, city, date of vaccination, vaccination type, been infected by COVID-19 before or not).

```
SELECT Person.firstName, Person.lastName, Person.dateOfBirth, Person.email,  
    Person.telephone, Person.city, Vaccination.date, VaccinationDoneWith.name,  
    CASE  
        WHEN InfectionCount.cnt > 0 THEN 'True'  
        ELSE 'False'  
    END AS wasInfected  
FROM Person, PersonAgeGroup, Vaccination, VaccinationDoneWith,  
    (SELECT medicaidNum, COUNT(medicaidNum) AS cnt  
    FROM Infection GROUP BY medicaidNum) AS InfectionCount  
WHERE Person.medicaidNum = Vaccination.medicaidNum AND  
    Person.medicaidNum = PersonAgeGroup.medicaidNum AND  
    Person.medicaidNum = VaccinationDoneWith.medicaidNum AND  
    Person.medicaidNum = InfectionCount.medicaidNum AND  
    Vaccination.doseNumber = VaccinationDoneWith.doseNumber AND  
    (ageRange = "80+" OR ageRange = "70-79" OR ageRange = "60-69" OR  
    ageRange = "50-59" OR ageRange = "40-49" OR ageRange = "30-39" OR  
    ageRange = "18-29");
```

2. Get details of all the Vaccination facilities in Québec (name, address, phone number, web address, type).

```
SELECT name, address, phoneNumber, webAddress, type  
FROM HealthFacility;
```

3. Get details of all the people who got vaccinated at the Olympic Stadium in Montréal in January 2021 (first-name, last-name, date of birth, email, phone, city, date of vaccination, type of vaccination, group age).

```

SELECT firstName, lastName, dateOfBirth, email, telephone, city, date,
       VaccinationDoneWith.name, ageRange
FROM Person, Vaccination, VaccinationDoneAt, VaccinationDoneWith, PersonAgeGroup
WHERE Person.medicaidNum = Vaccination.medicaidNumber AND
       Person.medicaidNum = VaccinationDoneAt.medicaidNum AND
       Person.medicaidNum = VaccinationDoneWith.medicaidNum AND
       Person.medicaidNum = PersonAgeGroup.medicaidNum AND
       Vaccination.doseNumber = VaccinationDoneWith.doseNumber AND
       Vaccination.doseNumber = VaccinationDoneAt.doseNumber AND
       VaccinationDoneAt.doseNumber = VaccinationDoneWith.doseNumber AND
       Vaccination.date >= "2021-01-01" AND
       Vaccination.date <= "2021-01-31" AND
       VaccinationDoneAt.name = "Olympic Stadium";

```

4. Provide a description of all the vaccinations used in Québec (Name of the vaccination, date of approval of the vaccination, current status of the vaccination, total number of people vaccinated with the vaccination).

```

SELECT VaccinationDoneWith.name, dateLastStatus, status,
       COUNT(VaccinationDoneWith.name) as countVaccinated
FROM Vaccination, VaccinationDoneWith, VaccinationDrug
WHERE Vaccination.medicaidNumber = VaccinationDoneWith.medicaidNum AND
       VaccinationDoneWith.name = VaccinationDrug.name
GROUP BY VaccinationDoneWith.name;

```

5. Get details of all the people who got vaccinated with a vaccination that is currently suspended (first-name, last-name, date of birth, email, phone, city, date of vaccination, vaccination type, date of suspension of the vaccination).

```

SELECT firstName, lastName, dateOfBirth, email, telephone, city,
       Vaccination.date,
       VaccinationDoneWith.name, VaccinationDrug.dateLastStatus
FROM Person, Vaccination, VaccinationDoneWith, VaccinationDrug
WHERE VaccinationDoneWith.name = VaccinationDrug.name AND
       Person.medicaidNum = VaccinationDoneWith.medicaidNum AND
       Person.medicaidNum = Vaccination.medicaidNumber AND
       Vaccination.medicaidNumber = VaccinationDoneWith.medicaidNum AND
       Vaccination.doseNumber = VaccinationDoneWith.doseNumber AND
       VaccinationDrug.status = "SUSPENDED";

```

6. Provide a report of people who got vaccinated by city in all the cities in the province of Québec. The report should include the city name and the number of people vaccinated in each city.

```

SELECT city, COUNT(medicaidNum)
FROM Person, Vaccination
WHERE province = "QC" AND
       Person.medicaidNum = Vaccination.medicaidNumber
GROUP BY city;

```

Part 4 - Populate

Populate Person relation

```
INSERT Person VALUES ("5418600 12", "(514)482-4299", "Annabel", "Dodson",  
    "6860 Fielding", "Montreal", "QC", "H4V1P2", TRUE,  
    "annabel.dodson@gmail.com", "1996-08-06");  
  
INSERT Person VALUES ("7198638 80", "(514)366-4286", "Zachary", "Rutledge",  
    " 902 Tittley", "Montreal", "QC", "H8R3X3", TRUE,  
    "Zachary.Rutledge@gmail.com", "1986-08-12");  
  
INSERT Person VALUES ("5867167 04", "(514)767-5030", "Alister", "Wiggins",  
    "6818 Lamont", "Montreal", "QC", "H4E2T9", TRUE, "Alister.Wiggins@gmail.com",  
    "1987-08-27");  
  
INSERT Person VALUES ("9415548 75", "(514)525-4731", "Osman", "Vaughn",  
    " 1720 Bourbonniere", "Montreal", "QC", "H1W3N4", TRUE,  
    "Osman.Vaughn@gmail.com", "2007-09-08");  
  
INSERT Person VALUES ("9052864 70", "(514)768-9102", "Bear", "Melton",  
    "5962 Jogues", "Montreal", "QC", "H4E2W3", TRUE, "Bear.Melton@gmail.com",  
    "1976-09-13");  
  
INSERT Person VALUES ("9826293 18", "(613)733-8502", "Lulu", "Fisher",  
    "927 Rand", "Gatineau", "QC", "J9J1C8", TRUE, "Lulu.Fisher@gmail.com",  
    "1976-09-27");  
  
INSERT Person VALUES ("2055054 40", "(819)503-3196", "Collette", "Zavala",  
    "60 Du Blizzard", "Gatineau", "QC", "J9A0C8", TRUE,  
    "Collette.Zavala@gmail.com", "1956-09-29");  
  
INSERT Person VALUES ("7247613 20", "(819)408-0531", "Angela", "Dodson",  
    "1175 De L'Esplanade", "Sherbrooke", "QC", "J1H1S9", TRUE,  
    "Angela.Dodson@gmail.com", "1956-10-15");  
  
INSERT Person VALUES ("7976980 46", "(819)566-0668", "Annabel", "Crouch",  
    "1812 Dunant", "Sherbrooke", "QC", "J1H6L4", TRUE,  
    "Annabel.Crouch@gmail.com", "1936-10-18");  
  
INSERT Person VALUES ("6623218 89", "(418)547-8256", "Nyle", "Sparrow",  
    "3937 Soucy", "Jonquière", "QC", "G7X8T1", TRUE, "Nyle.Sparrow@gmail.com",  
    "1936-12-08");
```

Populate Infection relation

```

INSERT Infection VALUES ("2021-03-16", "5418600 12");
INSERT Infection VALUES ("2021-03-25", "7198638 80");
INSERT Infection VALUES ("2021-04-02", "5867167 04");
INSERT Infection VALUES ("2021-04-07", "9415548 75");
INSERT Infection VALUES ("2021-04-30", "9052864 70");
INSERT Infection VALUES ("2021-05-05", "9826293 18");
INSERT Infection VALUES ("2021-05-20", "2055054 40");
INSERT Infection VALUES ("2021-05-21", "7247613 20");
INSERT Infection VALUES ("2021-06-18", "7976980 46");
INSERT Infection VALUES ("2021-07-22", "6623218 89");

```

Populate AgeGroup relation

```

INSERT AgeGroup VALUES ("80+", TRUE);
INSERT AgeGroup VALUES ("70-79", TRUE);
INSERT AgeGroup VALUES ("60-69", TRUE);
INSERT AgeGroup VALUES ("50-59", TRUE);
INSERT AgeGroup VALUES ("40-49", TRUE); 4 -
INSERT AgeGroup VALUES ("30-39", TRUE);
INSERT AgeGroup VALUES ("18-29", TRUE);
INSERT AgeGroup VALUES ("12-17", TRUE);
INSERT AgeGroup VALUES ("5-11", TRUE);
INSERT AgeGroup VALUES ("0-4", TRUE);

```

Populate Vaccination relation

```

INSERT Vaccination VALUES ("5418600 12", 1, "2021-01-16");
INSERT Vaccination VALUES ("5418600 12", 2, "2021-05-16");
INSERT Vaccination VALUES ("7198638 80", 1, "2021-04-25");
INSERT Vaccination VALUES ("5867167 04", 1, "2021-05-02");
INSERT Vaccination VALUES ("9415548 75", 1, "2021-05-07");
INSERT Vaccination VALUES ("9052864 70", 1, "2021-01-30");
INSERT Vaccination VALUES ("9826293 18", 1, "2021-06-05");
INSERT Vaccination VALUES ("2055054 40", 1, "2021-06-20");
INSERT Vaccination VALUES ("7247613 20", 1, "2021-06-21");
INSERT Vaccination VALUES ("7976980 46", 1, "2021-07-18");

```

Populate PersonAgeGroup relation

```

INSERT PersonAgeGroup VALUES ("18-29", "5418600 12");
INSERT PersonAgeGroup VALUES ("30-39", "7198638 80");
INSERT PersonAgeGroup VALUES ("30-39", "5867167 04");
INSERT PersonAgeGroup VALUES ("12-17", "9415548 75");
INSERT PersonAgeGroup VALUES ("40-49", "9052864 70");
INSERT PersonAgeGroup VALUES ("40-49", "9826293 18");
INSERT PersonAgeGroup VALUES ("60-69", "2055054 40");
INSERT PersonAgeGroup VALUES ("60-69", "7247613 20");
INSERT PersonAgeGroup VALUES ("80+", "7976980 46");
INSERT PersonAgeGroup VALUES ("80+", "6623218 89");

```

Populate VaccinationDrug relation

```
INSERT VaccinationDrug VALUES ("Pfizer", "SAFE", "2020-06-21");
INSERT VaccinationDrug VALUES ("Moderna", "SAFE", "2020-06-21");
INSERT VaccinationDrug VALUES ("AstraZeneca", "SAFE", "2020-06-21");
INSERT VaccinationDrug VALUES ("Johnson & Johnson", "SUSPENDED", "2021-06-21");
INSERT VaccinationDrug VALUES ("RBD-Dimer", "SUSPENDED", "2021-01-01");
INSERT VaccinationDrug VALUES ("Covaxin", "SUSPENDED", "2021-01-01");
INSERT VaccinationDrug VALUES ("Ad5-nCoV", "SUSPENDED", "2021-01-01");
INSERT VaccinationDrug VALUES ("CIGB-66", "SUSPENDED", "2021-01-01");
INSERT VaccinationDrug VALUES ("KoviVac", "SUSPENDED", "2021-01-01");
INSERT VaccinationDrug VALUES ("EpiVacCorona", "SUSPENDED", "2021-01-01");
```

Populate VaccinationDoneWith relation

```
INSERT VaccinationDoneWith VALUES ("5418600 12", 1, "Pfizer");
INSERT VaccinationDoneWith VALUES ("5418600 12", 2, "Moderna");
INSERT VaccinationDoneWith VALUES ("7198638 80", 1, "Pfizer");
INSERT VaccinationDoneWith VALUES ("5867167 04", 1, "Moderna");
INSERT VaccinationDoneWith VALUES ("9415548 75", 1, "Pfizer");
INSERT VaccinationDoneWith VALUES ("9052864 70", 1, "Pfizer");
INSERT VaccinationDoneWith VALUES ("9826293 18", 1, "AstraZeneca");
INSERT VaccinationDoneWith VALUES ("2055054 40", 1, "AstraZeneca");
INSERT VaccinationDoneWith VALUES ("7247613 20", 1, "Johnson & Johnson");
INSERT VaccinationDoneWith VALUES ("7976980 46", 1, "Johnson & Johnson");
```

Populate VaccinationDoneAt relation

```
INSERT VaccinationDoneAt VALUES ("5418600 12", 1, "Olympic Stadium",
    "4545 Avenue Pierre-De Coubertin, Montréal, QC H1V 0B2");

INSERT VaccinationDoneAt VALUES ("5418600 12", 2, "Olympic Stadium",
    "4545 Avenue Pierre-De Coubertin, Montréal, QC H1V 0B2");

INSERT VaccinationDoneAt VALUES ("7198638 80", 1, "Jewish General Hospital",
    "3755 Chemin de la Côte-Sainte-Catherine, Montréal, QC H3T 1E2");

INSERT VaccinationDoneAt VALUES ("5867167 04", 1, "Jewish General Hospital",
    "3755 Chemin de la Côte-Sainte-Catherine, Montréal, QC H3T 1E2");

INSERT VaccinationDoneAt VALUES ("9415548 75", 1, "Olympic Stadium",
    "4545 Avenue Pierre-De Coubertin, Montréal, QC H1V 0B2");

INSERT VaccinationDoneAt VALUES ("9052864 70", 1, "Olympic Stadium",
    "4545 Avenue Pierre-De Coubertin, Montréal, QC H1V 0B2");

INSERT VaccinationDoneAt VALUES ("9826293 18", 1, "Hopital de Gatineau",
    "909 Boulevard la Vérendrye 0, Gatineau, QC J8P 7H2");

INSERT VaccinationDoneAt VALUES ("2055054 40", 1, "Hopital de Gatineau",
    "909 Boulevard la Vérendrye 0, Gatineau, QC J8P 7H2");

INSERT VaccinationDoneAt VALUES ("7247613 20", 1, "CHUS",
    "300 Rue King E, Sherbrooke, QC J1G 1B1");

INSERT VaccinationDoneAt VALUES ("7976980 46", 1, "CHUS",
```



```
"300 Rue King E, Sherbrooke, QC J1G 1B1");
```

Populate HealthFacility relation

```
INSERT HealthFacility VALUES ("Olympic Stadium",
    "4545 Avenue Pierre-De Coubertin, Montréal, QC H1V 0B2", "(514)252-4141",
    "www.so.com", "SPECIAL");

INSERT HealthFacility VALUES ("Jewish General Hospital",
    "3755 Chemin de la Côte-Sainte-Catherine, Montréal, QC H3T 1E2",
    "(514)340-8222", "www.gjw.com", "HOSPITAL");

INSERT HealthFacility VALUES ("Hopital de Gatineau",
    "909 Boulevard la Vérendrye 0, Gatineau, QC J8P 7H2", "(819)966-6100",
    "www.hg.com", "HOSPITAL");

INSERT HealthFacility VALUES ("CHUS",
    "300 Rue King E, Sherbrooke, QC J1G 1B1", "(819)346-1110", "www.chus.com",
    "HOSPITAL");

INSERT HealthFacility VALUES ("Hôpital Fleury",
    "2180, rue Fleury Est Montréal (Québec) H2B 1K3", "(514)384-2000",
    "www.hopitalFleury.com", "HOSPITAL");

INSERT HealthFacility VALUES ("Hôpital Richardson",
    "5425, Avenue Bessborough Montréal (Québec) H4V 2S7", "(514)484-7878",
    "www.hopitalRichardson.com", "HOSPITAL");

INSERT HealthFacility VALUES ("Hôpital Rivière-des-Prairies",
    "7070, boulevard Perras Montréal (Québec) H1E 1A4", "(514)323-7260",
    "www.hopitalRP.com", "HOSPITAL");

INSERT HealthFacility VALUES ("Hôpital de Lasalle",
    "8585, Terrasse Champlain LaSalle (Québec) H8P 1C1", "(514)362-8000",
    "www.hopitalLasalle.com", "HOSPITAL");

INSERT HealthFacility VALUES ("Hôpital de Verdun",
    "4000, boul. Lasalle Verdun (Québec) H4G 2A3", "(514)362-1C1000",
    "www.hopitalVerdun.com", "HOSPITAL");

INSERT HealthFacility VALUES ("Hôpital de Sainte-Anne",
    "305, boulevard des Anciens-Combattants Sainte-Anne-de-Bellevue (Québec) H9X
    1Y9",
    "(514)457-3440", "www.hopitalSaintAnne.com", "HOSPITAL");
```

Part 5 - DB Content

Person relation Content

```
mysql> SELECT COUNT(*) FROM Person;
+-----+
| COUNT(*) |
+-----+
|      10 |
+-----+
1 row in set (0.00 sec)
```

Infection relation Content

```
mysql> SELECT COUNT(*) FROM Infection;
+-----+
| COUNT(*) |
+-----+
|      10 |
+-----+
1 row in set (0.00 sec)
```

AgeGroup relation Content

```
mysql> SELECT COUNT(*) FROM AgeGroup;
+-----+
| COUNT(*) |
+-----+
|      10 |
+-----+
1 row in set (0.00 sec)
```

Vaccination relation Content

```
mysql> SELECT COUNT(*) FROM Vaccination;
+-----+
| COUNT(*) |
+-----+
|      10 |
+-----+
1 row in set (0.01 sec)
```

PersonAgeGroup relation Content

```
mysql> SELECT COUNT(*) FROM PersonAgeGroup;
+-----+
| COUNT(*) |
+-----+
|      10 |
+-----+
1 row in set (0.01 sec)
```

VaccinationDrug relation Content

```
mysql> SELECT COUNT(*) FROM VaccinationDrug;
+-----+
| COUNT(*) |
+-----+
|      10 |
+-----+
1 row in set (0.01 sec)
```

VaccinationDoneWith relation Content

```
mysql> SELECT COUNT(*) FROM VaccinationDoneWith;
+-----+
| COUNT(*) |
+-----+
|      10 |
+-----+
1 row in set (0.00 sec)
```

VaccinationDoneAt relation Content

```
mysql> SELECT COUNT(*) FROM VaccinationDoneAt;
+-----+
| COUNT(*) |
+-----+
|      10 |
+-----+
1 row in set (0.00 sec)
```

HealthFacility relation Content

```
mysql> SELECT COUNT(*) FROM HealthFacility;
+-----+
| COUNT(*) |
+-----+
|      10 |
+-----+
1 row in set (0.00 sec)
```